Listing of the Claims

The following listing of claims will replace all prior versions and listings of the claims in the application:

1. (Previously Presented)   An application framework for mobile devices comprising:

a multi-tier architecture comprising:

a first tier capable of processing device-independent applications;

a third tier providing a plurality of services to said first tier;

a second tier for preprocessing communications between said first tier and said third tier thereby reducing processing requirements on said first tier, wherein said preprocessing communications includes transforming any content and wherein the first tier includes at least one application object class and a manager object capable of managing each of the at least one application object class;

a plurality of peer-to-peer communication layers between said third tier and said first tier through said second tier, said second tier providing protocol translation between said third tier and said first tier;

wherein the manager object includes:

logic for creating a registry in the first tier that includes a table of each of said at least one application object class and wherein the registry includes an application object class ID for each of said at least one application object class;

logic for allowing a first application object class to be active in a foreground state in a first tier device;

logic for allowing a second application object class to be active in a background state;

logic for allowing a third application object class to be inactive in the background state;

logic for receiving a request for access to the foreground state from one of the second application object class or the third application; and

logic for granting the request for access to the foreground state including:

logic for placing the first application object class in the background state;

logic for placing the requesting application object class in the foreground state; and

logic for placing the first application object class in a destroy state from the background state.

2. (Previously Presented) The application framework of claim 1, wherein said plurality of peer-to-peer layers comprises:

at least one physical data link layer;

a network layer;

a transport layer;

a session layer;

a presentation layer; and

an applications layer.

3. (Original) The application framework of claim 2, wherein said at least one physical data link layer comprises landline communication between said third tier and said second tier, and wireless communication between said second tier and said first tier.

4. (Original) The application framework of claim 2, wherein said network layer uses Internet Protocol communication between said third tier and said second tier, and wireless applications protocol between said second tier and said first tier.

5. (Original) The application framework of claim 2, wherein said transport layer uses transport control protocol between said third tier and said second tier, and wireless applications protocol between said second tier and said first tier.

6. (Original) The application framework of claim 2, wherein said session layer uses hypertext transport protocol between said third tier and said second tier and amongst services in said third tier, and wireless applications protocol between said second tier and said first tier.

7. (Original) The application framework of claim 2, wherein said presentation layer uses a markup language between said third tier and said second tier, and a wireless markup language between said second tier and said first tier.

8. (Original) The application framework of claim 2, wherein said application layer prepares graphical data for presentation, said graphical data being available in any suitable graphical format and communicated from said third tier to said second tier, said second tier converting said graphical data to a wireless graphics format for transmission to said first tier.

9. (Original) The application framework of claim 1, wherein said first tier is a wireless device.

10. (Original) The application framework of claim 9, wherein said wireless device is a cellular phone.

11. (Previously Presented) The application framework of claim 9, wherein said wireless device is a personal digital assistant (PDA).

12. (Original) The application framework of claim 9, wherein said wireless device includes a software architecture comprising:
      a real-time operating system layer;
      a virtual machine layer having at least one system class; and
      an application layer.

13. (Original) The application framework of claim 12, wherein said real-time operating system layer comprises: a wireless small device operating system; a plurality of linking and networking application programming interfaces; and an object for updating and installing software in said wireless device.

14. (Previously Presented) The application framework of claim 12, wherein said application layer comprises:
      a platform specific framework object class; and
      a platform independent framework object class.

15. (Original) The application framework of claim 14, wherein said at least one application object class may operate in any of a plurality of states, wherein said plurality of states comprises an initialization state, a background state, a foreground state, a destroy state, and a paused state.

16. (Canceled)

17. (Previously Presented)   An application framework for mobile devices comprising:

a multi-tier architecture comprising:

a client tier having a virtual machine capable of processing device-independent applications;

a server tier providing a plurality of services to said client tier in the form of said device-independent applications;

a gateway tier for preprocessing communications between said client tier and said server tier thereby reducing processing requirements on said client tier wherein said preprocessing communications includes transforming any content;

a plurality of peer-to-peer communication layers between said server tier and said client tier through said gateway tier, said gateway tier providing protocol translation between said server tier and said client tier;

a manager object in said client tier for managing said device-independent applications, each of said device-independent applications having a plurality of states, wherein said plurality of states comprises an initialization state, a background state, a foreground state, a destroy state, and a paused state, wherein the manager object includes:

logic for creating a registry in the first tier that includes a table of each of said at least one application object class and wherein the registry includes an application object class ID for each of said at least one application object class;

logic for allowing a first application object class to be active in the foreground state in a first tier device;

logic for allowing a second application object class to be active in the background state;

logic for allowing a third application object class to be inactive in the background state; and

logic for receiving a request for access to the foreground state from one of the second application object class or the third application;

logic for granting the request for access to the foreground state including:

logic for placing the first application object class in the background state;

logic for placing the requesting application object class in the foreground state; and

logic for placing the first application object class in a destroy state from the background state.

18. (Previously Presented)   A multi-tier system for providing vendor-neutral communication to mobile devices comprising:

a client device having a virtual machine capable of processing device-independent applications;

a plurality of servers providing a plurality of services to said client device in the form of said device-independent applications;

a gateway for preprocessing communications between said client device and said plurality of servers thereby reducing processing requirements on said client device, wherein said preprocessing communications includes transforming any content;

a plurality of peer-to-peer communication layers between said plurality of servers and said client device through said gateway, said gateway providing protocol translation between said plurality of servers and said client device;

a manager object in said client device for managing said device-independent applications, each of said device-independent applications having a plurality of states, wherein said plurality of states comprises an initialization state, a background state, a foreground state, a destroy state, and a paused state, wherein the manager object includes:

logic for creating a registry in the first tier that includes a table of each of said at least one application object class and wherein the registry includes

an application object class ID for each of said at least one application object class;

logic for allowing a first application object class to be active in the foreground state in said client device;

logic for allowing a second application object class to be active in the background state;

logic for allowing a third application object class to be inactive in the background state;

logic for receiving a request for access to the foreground state from one of the second application object class or the third application; and

logic for granting the request for access to the foreground state including:

logic for placing the first application object class in the background state;

logic for placing the requesting application object class in the foreground state; and

logic for placing the first application object class in a destroy state from the background state.